

RESURRECTING GHOST PARK



AN ASSESSMENT OF THREATS FACING CAMBODIA'S BOKOR NATIONAL PARK AND RECOMMENDATIONS FOR REDRESS

By

Meng Monyrak, Ministry of Environment/DNCP
Steven R. Galster, WildAid
Timothy J. Redford, WildAid/WCS
August 2000

WildAid

Rationale for This Assessment:

On-going wildlife surveys and trade research reveals that wildlife populations are being poached at an alarming rate across much of Cambodia. However, field biologists from the Wildlife Conservation Society (WCS) believe that some of these populations can recover if they are given immediate, professional, and sustained protection. Key wildlife populations can be found inside and adjacent to Cambodia's protected areas (PA's). Most areas adjacent to PA's are still being logged and are not patrolled to fend off illegal hunting. Few protected areas in Cambodia are currently being patrolled on any consistent basis. There currently is no national system in place to identify and arrest illegal wildlife traders.

The Ministry of Environment is in charge of Cambodia's 23 protected areas, only 4 of which were staffed until recently. It was recently reported that more staff is being hired for the remaining PA's.



Waterfall in Cambodia's Bokor National Park

Perhaps the biggest impediment to safeguarding Cambodia's protected areas is the fact that the Ministry of Environment (MOE) is nearly bankrupt. The MOE currently receives .01% of the government's total budget. It is almost totally dependent on foreign donors. Unless the MOE receives a bigger budget from the Cambodian government, an effective and sustainable infrastructure cannot be developed to protect wildlife in Cambodia's protected areas, leaving wildlife populations open to further poaching and certain demise.

Successful wildlife protection in any country, especially one as poor and transitional as Cambodia, requires (1) high level political support; (2) local community participation; (3) accurate data on where viable populations of wildlife exist; (4) protection systems that address threats to those populations; (5) training of ground staff to implement these protection systems; (6) technical and financial support for the staff charged with implementing the protection systems; (7) consistent monitoring of those field staff; and (8) mechanisms for sustaining financial support for the protection systems.

With the long term aim of helping the MOE improve its capacity to protect wildlife in Cambodia's national parks and sanctuaries, WildAid and the MOE signed an MOU to this effect on July 21, 2000. Under the terms of this MOU, WildAid agreed to assess and address the needs of Bokor National Park as one of its first acts of assistance. On-going discussions between WildAid and the Department of Nature Conservation

and Protection (DNCP) under the MOE --and the MOU between the two organizations-- described the rationale of supporting Bokor as follows:

1. To help the bio-diversity in this important national park recover through the development of a new protection system;
2. To help Bokor National Park attract tourists and potential donors in order to expand and sustain this system;
3. To develop and utilize Bokor National Park as a base for training rangers from other protected areas in Cambodia in how to minimize poaching;
4. To draw experience and lessons from the new protection system in Bokor and apply, as appropriate, to the management of other protected areas in Cambodia.

Assessment Goals and Strategy

The WildAid assessment of Bokor National Park was done with the aim of:

1. Determining the main threats to Bokor National Park
2. Developing a simple protection system that can address some of these threats
3. Informing MOE/DNCP authorities of any information or analysis that may be useful to their protected area management planning
4. Informing trainers involved in an upcoming ranger training in Bokor about the park, its personnel, and their needs.



Entrance to Bokor National Park

Support for the Bokor assessment was provided by the MOE/DNCP and WCS, in the form of information, advice, and administrative back-up.

The assessment was conducted between June 1 and July 20, 2000. The assessment was conducted in 2 stages, the first by a team from the DNCP, with guidelines from WildAid, and the second by a team from WildAid, supported by a member of the DNCP.

The second assessment team traveled to Cambodia to fill in any blanks from the first assessment team report; to clarify some points that were vague in the first report due mainly to translation issues; and to visit the park in order to meet the park Director, and to assess the training facilities.

The WildAid team was very impressed with the first assessment team's report, and with the preparation for the second stage of the assessment. WildAid's MOE

counterpart, Meng Monyrak, and the Director of Bokor National Park, Chey Yuthearith, were very helpful. WCS personnel provided the WildAid team with information and advice beforehand, as well as facilitating administrative support the assessment teams. Lay Khim, Head of Protected Areas Office of MOE/DNCP was very supportive and available for discussion about the park's needs during both stages of the assessment.

This assessment provides the basis for a proposed protection system for Bokor, as well as a ranger-training course to implement that system. The training course will take place in December, 2000, and the protection system can go into effect in January, 2001 under the terms of the WildAid-MOE Memorandum of Understanding if the MOE/DNCP approves the proposed system (see recommendations at end of report).

Trainees for the December course will include 25 rangers from Bokor, together with 5 staff from other protected areas across Cambodia. The training course was developed by WildAid, in collaboration with DNCP, WCS, and U.S. Fish and Wildlife Service.

The first assessment team met with the Director of DNCP, Director of Protected Areas Office, Park Director, park rangers, 2 WCS field biologists and a WCS MOE Counterpart, who trained Bokor rangers last January 2000 on tiger survey techniques and conservation. The WCS team spent ten days in the field in Bokor during the January training.

The WildAid team read the report of the first assessment team then traveled to Cambodia for one week to gain further insight. More interviews were conducted.

Each interview was designed to:

- Assess the present level of knowledge, skills and experiences of the rangers and identify their needs to promote effective and efficient management of the park;
- Understand park management issues, constraints to rangers, and the relationship between park staff and local communities and stakeholders.

Assessment Methodology

Methods used during the assessment included:

- Open and semi-structure interview
- Group discussion
- Field observation with rangers

Potential training modules were rated in terms of need by most interviewees. The modules offered as available for the December course included:

-Strategic Planning

- Navigation
- Weapons Handling and Safety
- Arrest Techniques
- Investigations/Interviewing
- Wildlife Monitoring
- Outreach

Interviewees were asked to rate each module from 0 to 5, with 5 representing the greatest need. The assessment teams then asked for reasons and illustrations to back up each rating.

This report is also an attempt to draw as detailed a picture as possible for trainers involved in the December course about Bokor's staff resources, and the problems they face. The main targets of the assessment were rangers and park management staff. Observation of field staff did not play an important role in this assessment, as field staff are largely confined to their sub-stations, due to lack of a patrolling system and resources to support it. Interviews, reports, and several visits to the park and its environs provide the basis for this assessment.

Brief Background on Bokor, including literature available

Bokor National Park is 140,000 hectares, located approximately between 103 52' - 104 10' Longitude, and 11 68' -12 24' Latitude. It straddles 3 provinces: Kampot, Kompong Speu, and Kompong Som. Its elevation ranges between 30 and 1079 meters above sea level. Following a long period of conflict in Cambodia, Bokor was established by Royal decree as a national park on November 1, 1993.



Remains of the once bustling Bokor Casino

According to a European Union report on Bokor:

“Prior to the Khmer Rouge period, there was a small town (Bokor town) with a European style church, pagoda, hospital, royal summer residence, barracks, power

station, casino, and several other buildings as well as a permanent water reservoir...Kampot authorities have stated that up to 10,000 people have lived in Bokor at any one time. All structures are now vandalized or in ruins. Several of the buildings are, however, still in a habitable [sic] state ... One such structure has already been rehabilitated for a Research and Training Centre...”

Bokor was taken over by the Khmer Rouge in the late 1970's. The authors of this report felt, when walking around Bokor, like they were walking around a Ghost town – or Ghost Park. Both the buildings and wildlife populations are remnants. And yet visitors gain the impression that Bokor can be resurrected.

The European Union Support Programme to The Environment Sector in Cambodia (SPEC) conducted significant research into the problems facing Bokor, and provided some support to the MOE/DNCP to address these problems. However, support was stopped sometime late in 1997. According to some interviewed, this was because of political problems that erupted in Cambodia during this period. However, a memo accompanying a report by SPEC regarding Bokor indicated that SPEC was fed up with what it saw as an unwillingness or inability of MOE authorities to tackle the problem of encroachment into the park. The SPEC “Specialist” wrote that “should a future donor consider any further support to Bokor National Park, full control must be with the donor”, and that “no support be given to the management of Bokor National Park until some of the more important issues outlined below are dealt with,” which included (i) MOE not providing information and photos about land encroachment to SPEC; (ii) MOE allowing a dam to be built inside the park (Kamchay Dam proposal); (iii) logging operations, namely that they be stopped inside the park; (iv) demarcation of the park, which has yet to be done; (v) zoning of protected areas which had yet to take place by the time SPEC made its final report in February 2000. Finally, the SPEC Specialist opined that donors would not be interested to supplement ranger needs so long as MOE failed to show more interest in helping its own staff.



Fog covers an abandoned Church from the days of French Tourism in Bokor

The SPEC report that was made available to WildAid will be copied and enclosed with this report for those not receiving this assessment by email. The name of this report is “Management Plan for Preah Monivong National Park (Bokor)”, 3 February 2000.

SPEC's observations were taken into consideration during the assessment, and in the recommendations at the end of this report. It should be noted that BNP staff appear to be addressing some of SPEC's concerns.

WCS produced a report with WWF about its training workshop on wildlife monitoring in Bokor. This report was shared with WildAid. It is called "Tiger Conservation and Survey Training, Bokor National Park, Cambodia, 10-26 January, 2000." Copies of this report are available to those individual or agencies involved with the project upon request from the WCS Cambodia office.

One word about Tourism: Bokor was once a significant tourist attraction, mainly for wealthy Cambodians and foreigners. Some tourists are now going back to Bokor. Last year, 948 foreigners visited the park, while 1,654 Cambodian driven cars entered. These statistics are impressive given the rough state of the road that each tourist must use to enter BNP. Thirty percent of entrance fees go back into the park. The remainder of the fees goes to Ministry of Finance (50%), Police and Military (10%), and Kampot Provincial Government (10%). Foreigners are charged about \$2 to enter, while a Cambodian driven car is charged about \$1.25. BNP is attractive to local and foreign tourists because of its natural beauty, its spectacular views of the surrounding areas and sea, and the remains of a pre-war resort and set of royal family houses.

Interviews with the Park Director

Mr. Chay Yuthearith is Park Director. He is based at a small office in Kampot and roves between his office, the park entrance sub-station, and the training center sub-station. He drives his own car. The Director appeared to know a lot about the park, commands respect from his rangers, looks organized, energetic, and had very specific ideas on how to improve park management. He made it to the 11th grade in school and was in the Ministry of Industry Head office from 1979-1996.

Yuthearith and his Deputy, Yen Mony, explained that the main objective of park management at this moment is to crack down on park encroachment, illegal logging, wildlife trapping and poaching activities. So far there are 35 rangers who had been recruited from so-called self-defense local people forces (Kong Chive Pol), including provincial soldiers and local people living around the park.



Atop Bokor, Park Director Chay Yuthearith points at park's western boundary

Logging activity, Yuthearith said, has been reduced. He attributes this feat to a very clear government policy about no logging inside protected areas and strong actions taken by himself and his rangers to catch and move loggers out of the park. The Director showed us photos of illegal saw mills they caught in operation, as well as a pile of chain saws used by illegal loggers that his men confiscated.

Yuthearith has had "good" cooperation from local authorities, including police and the courts (through the Governor's office). He demonstrated his connections by lining up meetings with two senior provincial police officers and the 1st Deputy Governor of

Kampot a day after we asked for these meetings. He also demonstrated that some police are the problem, in that some own land inside the park and are not yet moving their way out.

Yuthearith expressed that the main threats to wildlife and habitat of Bokor NP are gun carrying hunters and local influential people. These include ex-Khmer rouge soldiers, as well as businessmen living in the Northeast part of the Park who are involved in illegal logging using portable sawmills; wildlife poaching; the clearing of forested land for crop field or settlement; provincial police and soldiers converting part of the core area into orchard farms and conducting illegal selective logging in the East and North; and forest concessionaires adjacent to the East park making accessibility to patrolling along the border difficult, while cutting trees inside the park. Yellow vine and aloewood collecting, he said, is on the decrease because so much of it has already been removed from the park.

Those who live inside the park or operate farms there have been given a 3 year period to move out. If park staff see anyone expanding their land claims or activities inside the park, the Director goes to the local court and asks that the encroacher be issued a fine.



Encroachment: House built inside the park

Elephant poaching, as far as he knows, is currently not a problem, nor has he heard about bear poaching. [It should be noted that (a) WCS field biologists have photos of elephant bones, which have been sawn and processed in the forest, and (b) snares and traps encountered during a survey there could catch bears]. The main target of most people entering the park is yellow vine (*Cosinium usitatum*) and other NTFPs. But many of these collectors also lay traps and snares.

Bokor's rangers cannot patrol the many trails or roads penetrating into the park. There are not enough rangers or any basic support for existing ones to do overnight patrolling. One trail used by many local villagers is not far from one substation. Yuthearith believes his rangers could reduce the number of poachers entering the park there if he could move that substation (Teouk Chou) closer to the trail. He said sometimes up to 300 people enter the park by that trail near Teouk Chou substation. The cost of a new substation is estimated by the Director to be about \$4,000. The current substation is made of bamboo and rattan, the newly proposed one would be built of brick and concrete.

Rangers lack field equipment, GPS's, maps, provisions for food, and their salaries are so low (\$12/month) that they often have to work a second job to be able to support their families. It is estimated that rangers who have families need to make at least \$40-\$50/month in order to focus their minds and time on one job.

There are 4 permanent sub-stations around the park, namely (1) the main entrance to Bokor, (2) Post Teouk Chou, (3) Training and Research Center and (4) Post Pich Nel in which there are 15, 10, 5 and 5 rangers, respectively. Sub-station number 4 is based at the northern tip of the park and although it has a telephone, there is no money to pay the monthly bills, therefore there is little contact between that substation and the Director on any frequent basis. Several soldiers run sub-station number 4.

The actual number of rangers carrying out field patrolling is 25. The present number of rangers is not enough to watch over the park, which covers 140 000 hectares. To be able to control the whole national park, Yuthearith believes he needs 150 rangers.

The park has yet to be clearly demarcated. Often, NTFP collectors and encroachers claim they are walking or developing outside the park's boundaries. One area that is fairly well demarcated is the southwestern side of the park, where a train track runs along the border. There is a railway cart that rangers have used on a few occasions (borrowed from its owner) to cruise along the railway on their way to confront illegal loggers. Such a cart costs about \$100. It is driven by from a motorbike in the front, with a slot for the wheels to fit in.



Market in Kampot where NTFP's, fish and other local goods sold

Local people enter the park to collect NTFP's and to hunt. Some hunters use dogs to hunt. The use of snares, traps and dogs appear to pose a greater threat to wildlife populations than guns do.

Yuthearith said that with limited financial resources the park rangers (since EU/SPEC postponed support in July 1997) focus only on anti-illegal logging activities carried out in the Kampot province area. This is because his rangers have permission to carry their guns within Kampot territory. (Bokor straddles 3 provinces). Rangers sometimes patrol to collect and destroy traps and snares, while at the same time warning local people near and inside the park who appear to be collecting rattan, bamboo, wild-edible fruits, and medicinal plants to not set traps or snares any more.

Main entrance trails to the park are through Teouk Chou, Steoung Keo, Koh Sla, Teouk Thlar, Mong Rithy's forest concession and Pich Nel. Yuthearith estimates that

600 people enter the park every day to collect NTFP's, with an unknown number of them hunting or trapping.

Yuthearith says his rangers know Bokor forests quite well, strongly abide by park regulations, have good experience in walking through the forest, and know where most poaching trails are.



Kenwood receiver and ICOM hand-held used by BNP rangers

Equipment is seriously lacking. EU/SPEC provided some equipment to Bokor back in 1997 and 1998, including GPS's, a computer, motorbikes, and other items. However, most of these items were broken by now. The assessment team confirmed this. Two motorbikes are still in operation, the GPS's had reportedly been dropped, and we saw the computer, which appeared to be broken, but may be in order. It was not clear what had happened to the vehicle, however there are reports that it ended up in Phnom Penh. The Director was using his own car to drive from his office (in Kampot town) to the main entrance sub-station.

A run down on current Bokor NP stock of items necessary for patrolling:

- Guns: 10 (mix of AK-47 and M-16's)
- Gun Cleaners: (they currently use oil and cloth)
- Ammunition: not clear, but appears to be issued randomly by police and military
- Field Kits (tents, sleeping bags, cooking utensils, hammocks with mosquito nets): NONE
- Patrolling uniforms and boots: NONE (each ranger has one uniform, issued 3 years ago, and these are not suitable for patrolling).
- GPS: NONE
- Radios: 2 Kenwood Mobile Receivers, 5 working ICOM IC-2GXAT FM transceivers (5 more are not working). There is a very good relay station at the top of Bokor, but UNDP and a Cambodian agency run it, and park staff have no access to it. Also, since the park is very wet, waterproof hand-helds would be very useful.
- Compasses: "several"
- Functioning Motorbikes: 2
- Vehicle: NONE
- Hand cuffs: NONE
- Maps: 1 in the main entrance substation, 1 at Director's office in Kampot.
- Map Holders: NONE

- Field Information Report (or equivalent): NONE
- Still Cameras: NONE
- Video Camera: NONE
- Functioning Computer: NONE (the broken one we saw looked like it might be cheaper to replace than to fix).
- Outreach materials (brochures, etc): NONE

Yuthearith said the basic things his men need to do more pro-active patrolling on a consistent basis are:

- transport (more motorbikes or fix the existing ones, railway cart, and a truck)
- more radios and a few more receivers so each substation can have one (currently only 2 substations have the receivers)
- field kits (everything for overnight patrolling)
- money for food
- medicines (the park has at least one serious strand of malaria)
- “incentives” (salary supplements).

Overall, several factors limit Bokor rangers from protecting more than 1/3 of the park:

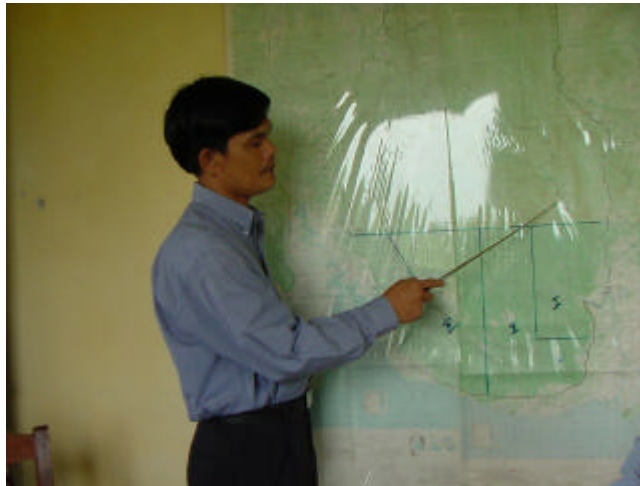
1. Insufficient number of rangers
2. Insufficient number of sub-stations even if they had enough rangers
3. Possibility of land mines in one section of the northern part of the park
4. Provincial restrictions on carrying arms (some provinces that straddle Bokor currently would not allow a ranger to carry a weapon within their boundaries).

Yuthearith’s goals are:

1. Reduce poaching and encroachment in the park
2. Increase the capacity of his rangers to protect the park
3. Clarify the laws regarding wildlife for his rangers
4. Increase cooperation with local communities
5. Reach politicians and influential business persons through television
6. Support the rangers with salary supplements and publicity about their work

Responding to questions concerning the 7 available training modules, Yuthearith he considered ALL of them as important or highly important (4 and 5 points) for his rangers.

- 1) Strategic Planning: Since EU/SPEC finished support for Bokor in 1997, Yuthearith has never developed any short or long term strategic planning, as there is no money to support activities in the field. Also, no one in his staff has skills in developing strategic plans. He said it is useless to take time and efforts to develop planning without the ability to implement on the ground. There are two persons (park Director and park administrator, who is essentially his “deputy”) writing monthly, weekly or daily patrolling plans, but these don’t happen all the time. Park rangers lack skills in planning and rely on orders from the Director and park administrator.



Yuthearith shows 4 sections of park his current ranger staff can patrol

Yuthearith is proud of the fact that despite few resources, he and his men have successfully taken action against illegal loggers, while also picking up snares and traps in the forest. Chain saws and portable saw mills have been confiscated from illegal loggers in the park. So far, nearly 30 saw mills have reportedly been confiscated since 1998. Yuthearith himself is active in fighting land encroachment by local farmers, police and developers.

When rangers do go on patrol, they return back to their substation the same day. Each group of patrolling rangers numbers between 4 and 10.

Yuthearith evaluated the module on strategic planning as highly important (5 points).

- 2) Navigation: The Park director expressed that even he needs training in navigation skills (5 point) because every time rangers, including himself, go to the field, they rarely carry a map or compass, and they do not have GPS. The rangers normally know the target area well, but some of them just do not know how to read a map. Therefore, patrolling takes place in areas they are familiar with. Due to lack of resources, personnel, and navigation skills, the actual area of the park that is patrolled is the lower 33-40%. Some parts of the rest of the park may have land mines, although it was suggested that most if not all had been found. A large area is guarded naturally by an escarpment that runs up the western boundary.

Some rangers had been trained in reading and use of map, compass and GPS for a few days during a WCS training course. But they never used these devices in the field after the January 2000 survey (which followed their training), so he assumed that his rangers forgot all that they learned. Information collected from the field is never marked on the map. The patrolling team members just inform the station leader of the local name of the area, road access to the patrolling areas or notable things in the field. Each patrolling team is guided by a ranger who has the most experience in that area, and team members “never worry” about getting lost.

- 3) Weapons handling and safety: Most rangers (70%) are recruited from local police or military agencies, therefore already having carried weapons, but not necessarily with much or any training. Yuthearith said this module is also needed (4 points).

Some rangers have had military type training, but he thinks that the kinds of confrontations they are likely to have in Bokor are different than on the military field. Encroachers, NTFP collectors, and hunters are the enemies now, but should be treated differently. He also wants the rangers to take good care of their guns, cleaning them every week and keeping them stored safely.



Bokor Ranger with his M-16 rifle

4) Self-Defense and Forest Maneuvering Techniques: Similar to weapon handling and safety, some rangers have never had any training in self-defense. He is proud of his rangers' hard work and bravery in confiscating about 30 portable sawmills from illegal logging violators. Sometimes, violators brought weapons to protect their illegal cutting activities, but so far the rangers have never experienced any fighting with those violators. As park Director, he has a good relationship and communication with the provincial governor of Kampot and local police and soldiers, and stands by to help the rangers in case fighting might be happen. He think that this module is important (4 points) because the rangers will feel more confident during patrolling, and it will minimize the chances of an accident.

5) Skills in investigation and analysis of wildlife crime scenes are highly important (5 points). These skills will enhance the rangers' ability to find where poached wildlife comes from, where it goes, and who is involved in the illegal activities. The information will be useful in planning for management and follow-up patrols.

The problem confronting rangers is that it's difficult to know which villagers entering the park are just collecting NTFP's, and which are laying traps and snares. It is currently the un-written policy of the park to go easy on small scale NTFP collectors, who have no other means of income, and to focus on illegal loggers, while trying to stop those who are laying the many snares and traps in BNP (particularly on the eastern side of the park).

Yuthearith said that when the rangers meet local people in the forest collecting rattan, wild fruits, medicinal plants and others, they ask them for information about illegal hunters, and warn them not to set traps or snares. The rangers also confiscate any wild animals they may have, and warn them not to bring dogs into the forest or they will shoot the dogs.

The rangers never really catch local people involved in poaching, hunting or wildlife trading. Local people tell the rangers that they understand that they are not supposed to hunt, and that they are in the forest because there are no alternative sources of income to supporting daily food needs. The director said that the rangers cannot

conduct law enforcement strictly on local violators of wildlife poaching activities, because that will damage the relationship and communication with them, but at the same time he said he is trying to eliminate wildlife poaching activities. The Director also explained that it is impossible for park rangers to conduct investigations into wildlife trade outside the park because it is not under the park authority. Ranger jurisdiction does not extend beyond park boundaries. He said that most wildlife exports are transported to Phnom Penh.



Chain saws confiscated from illegal logging operations in Bokor

Rangers sometimes take tourists into the forest. They walk through the forests in the shortest and easiest routes depending on the topography. They do not, however, try to find any wildlife tracks/signs on the ground. But they are happy to answer all questions put to them by tourists.

- 6) Communication outreach and education skills are highly important (5 points) for the rangers to learn. Since the park opened to the public and recruited the rangers to operate its basic management, only a few of them received intensive training on local participation and involvement in management and conservation of park resources. These trainings were organized and supported by EU/SPEC and DNCP in 1997-98 and since that time there has been no follow up activities concerning local community involvement in any discussion regarding the extraction, management and conservation of wildlife and NTFPs in the park.

Yuthearith said that several villages involved in NTFP collecting and poaching could be converted if the park helped them convert. Specifically, he believes many villagers would be receptive to provisional support and training in growing fruit trees, kitchen gardens, and pig and chicken farming. Yuthearith has several places in mind outside the southern cone of the park where, with financial support, he could develop agro-forestry nurseries. He opined that the way to implement an outreach plan would be to first hold meetings with select village representatives, then offer them one of these agro-forestry type projects.



Villagers enter park near proposed site for Teouk Chou Substation

The Director reminded us that Kampot province is the main base for rattan basket making for all of Cambodia.

- 7) The module on wildlife monitoring skills is also important (4 points) for the rangers. Like other subjects, there are only a few rangers who have been trained in this skill, however even those rangers have lost the skill because they have not applied it after training. Moreover, the park doesn't know what to do with information they get on wildlife sign. They just know in general whether poaching appears to be on the increase or decrease. For instance, they believe that this year wildlife hunting and the setting of traps/snares decreased. This may be because the hunters think that it is illegal to carry guns, or maybe it is too difficult to find wildlife, or they wondered if the market for wildlife has decreased.

Rangers

The background of Bokor rangers, in terms of education and experience, ranges widely. Some rangers are illiterate; others made it to 9th or 10th grade. Some have lived in forests before, some have not, others were in the military (one in Khmer Rouge), while others did not serve at all, as they spent part of their lives in refugee camps.

Fifteen rangers were interviewed and asked their opinions about the importance of the training modules offered them. These interviewees have different responsibilities and roles in the patrolling functions of the national park – from head of station, to team leaders to regular ranger.



Villager taking bamboo out of Bokor to sell in local market

1-) Strategic planning: (5 points).

All rangers said they are never involved in developing any patrolling plans extending beyond one month, and even that is long. They said there is no strategic planning for the national park because of no ideas, no skills and no one leading in such a plan. However, they confirmed that each station is supposed to propose daily or weekly plans after coming back from a patrol. The plan must be approved first by the park Director who helps to secure the required provisions and equipment. Each draft plan is a result of consultations with team members, and sometimes combined with ideas and information from local people they meet in the forest or next to the forest. Usually, two or three persons set the plan before being submitted to Director -- one or two who knew the information and situation of the targeted area, and one who wrote up the plan.

Most rangers do not want to get involved in setting or arranging patrolling plans, partly because it is easier to follow the plan or commanded tasks assigned by the Director, and partly because if the plan results in any mistakes, they would be responsible.

2-) Navigation skills: (5 points)

Traditionally, for each patrolling activity rangers never bring any technical equipment or materials, namely map, GPS, compass or note books. This is because either they don't have these things, or they are unable to read a map. About 80 % of rangers interviewed expressed that they do not need to bring a map or compass to the area where they conduct patrolling activities as they already know the way and have good experience in the forest. Some rangers can partly read and use compass (e.g., the four main directions: North, East, South and West).

The rangers also mentioned that some of them had trained intensively in reading and using map, compass or GPS, but after the training they never practiced their new knowledge and do not feel confident going too far away from their substation to use them. The rangers that gained training on Tiger Survey Technique and Conservation organized by WCS and WWF said they were too embarrassed to say they were not learning GPS during the training, and felt that part of the training went too fast for them.

In talking further, rangers said they are willing to patrol far from the substation, as they know where most trails and roads are, but it takes them a long time to navigate. In general, they never mark or note any information on the map or on any form in order to report to others. They just report directly to the director.

3-) Weapons handling and safety: (2 points for those have experience and 5 points for those have never carried weapons). Many rangers said they clean their own weapons at least once a week and keep their guns with them at all times. This is the law for possessing weapons in Cambodia. While some rangers have experiences in holding a gun, they are just instructed a few hours before going on patrol on how to fire on target. The inexperienced rangers have never cleaned a weapon and are very eager for training in this module.

4-) Self-defense and forest maneuvering techniques: (3 points for experienced rangers, 5 for inexperienced). The following are some examples given by senior rangers on how self-defense and confiscation techniques have been applied. Em Thol and Chiv Krem told of their experiences confiscating illegal mobile sawmills. After receiving orders from the Director, they would form teams of 4 to 10 rangers,

everyone with a gun. The number of rangers would depend on the scale of the illegal activity. Most illegal logging activities that have been suppressed take place in the lower part of Bokor's escarpment. The rangers never experienced violent confrontation with violators. When patrolling toward a reported violation, the team would choose not to walk on the easiest road/trail, especially across villages, nor would they approach targeted areas from a front foothill. They walked on the shortest road to reach where the sawmill could be heard, and would approach quietly up to 50 meters away, when the team leader would order the others to scatter into a semi-circle. They would then move as close to the violators as possible, sometimes within 2 meters. During this "crawling" exercise, every ranger was instructed to keep an eye on the violator, especially his hands, and to look out for anyone hiding nearby. After making sure that there was no gun, the first ranger would call out loudly to the target to drop the sawmill and to not move. Then other rangers would move in toward the target. Then the violators were arranged to walk back to the substation, carrying the confiscated sawmill in the middle of the line of the caravan of rangers.

5-) Investigations: (5 point)

Generally speaking, there is no organization of wildlife investigations inside or outside the park. Recently, the park initiated a campaign to collect and destroy traps and snares. In addition, the rangers based in Teouk Chou station had confiscated a dead wild pig. Most people entering the park tell the rangers that they are just collecting NTFP's and never lay out any traps/snares. Rangers, however, estimate that locals have laid literally thousands of traps and snares. Most are set to catch deer, wild pig, monitor lizards and pheasants. The traps or snares found by rangers are both old and new.

Aside from traps and snares set to catch wildlife, the rangers expressed concern about the use of dogs, which act as hunters at night time. Before conducting the "campaign" there were at least 10 villagers with 2 - 4 dogs per night walking past one station into the forest. The rangers have warned the dog owners that if they continue to hunt wildlife in the park, the rangers will have to shoot the dogs.

The interviewees also said that there are many trails leading into the park and those trails are out of their control. Ek Phiron, head of main entrance to Bokor sub station said they learn about poaching after they notice the wildlife products showing up in local markets. The rangers are very worried about the status of wildlife in Bokor, because wildlife legislation for protected areas in Cambodia is not strict, and hard to implement without more clarity. The rangers have no authority to catch wildlife violators in and out the park. If they catch someone inside the park, they believe they have to call the police for any action. This has worked when catching sawmill owners. Virtually no cases exist with regard to wildlife poaching.

6-) Community outreach and education: (5 points)

Park rangers rarely survey local community opinions and attitudes. However, most rangers come from local communities so they have some understanding. Rangers in Teouk Chou substation and the main entrance substation believe that local people will follow and abide by the park's rules and regulation if the powerful and rich men who have land inside the park, or conduct some other illegal activity, are dealt with first. If they see the activities of the influential being enforced, then they are more likely to abide by the rules.



Some local villagers plant rice when not collecting NTFP's

Rangers believe that local communities harvest a small amount of the park's resources. The rangers said that they need support from local authorities to enforce the illegal activities of influential people. The rangers cannot and will not alone pursue these people. Rangers said they are a little embarrassed to talk to the local community inhabitants about alternative solutions to NTFP collecting and hunting, as they failed to follow up on their words and actions before. Something got started, then stopped, when the EU/SPEC support was there. Local residents collecting NTFPs and wildlife in the park expressed that the best solution to mitigate pressure on park resources is to provide jobs or alternative sources of income to the locals.

Ranger Ek Phiron said the rangers never visit and educate local communities about the benefits of the park to agriculture or anything else.

7-) Wildlife monitoring: (4 points)

Wildlife monitoring, using advanced techniques and methods is too ambitious for most rangers at this point, but they are very interested to learn basic monitoring techniques as they want it to be part of their job. Currently no monitoring is going on. Rangers do observe wildlife, some note it down sometimes, but this information is not systematically funneled to anyone.

The rangers observed that since the park opened to the public, and old roads were partly renovated, elephants are no longer seen. Elephant tracks near the main roads and the number of all wildlife observed is decreasing, but primates are still seen like before. Thanks to a nation-wide initiative to confiscate guns from non-police/military personnel, gun-related hunting activities in the park has sharply dropped. Rangers still hope that there is at least one tiger living in Bokor, Em Thol said, even though it's partner was apparently shot dead in 1995-96. Following that death, the existing tiger near the western edge of the forest killed one soldier.

WCS-Cambodia

Joe Walston is Research Coordinator for WCS-Cambodia. He provided an intensive training on Tiger Survey Technique and Conservation last year to Bokor's Rangers and also organized a wildlife survey right after the training session. Joe expressed that to have effective management and protection of wildlife and other resources in Bokor National Park, first of all the park authorities must stop large-scale NTFP collection. He said it is impossible to stop wildlife poaching without stopping the massive collection of Vorl Romiet (*Cosinium usitatum*), as these collectors carry out much

hunting while they are in the forest. The collection of this yellow vine is organized by people outside the park and processed by at least one main company east of the park, and then exported to Vietnam, possibly for sale as a skin whitener, and/or anti-malaria drug. The owner of the processing plant has permission from the Ministry of Agriculture, Forestry and Fisheries (MAFF) to process vine from 5 Cambodian provinces. But no where in his permit does it say he CANNOT collect the vines inside protected areas. Walston thought someone from MAFF should be invited to the upcoming December training.

Yellow vine collectors are paid very low wages. Buyers will pay collectors only 100 riel per kilogram (or about 2 and half cents/kg).

Most important, said Walston, is to tackle the people who coordinate the harvesting of this yellow vine, because the collectors end up staying in the forest, hunting and trapping in the process. This is more important, Joe said, than arresting local community inhabitants. That would result in stopping poor people from collecting something for daily subsistence, while powerful and rich people are allowed to harvest what they like, or to encroach on the park as they wish.

Walston stressed that the training curriculum should include how to gather real information from local people, on illegal activities and other activities in the park, and on who organizes those activities, how to locate villages on a map, and where and how local residents and other people enter the park. The course should not train the rangers to get tough with local communities. The best strategy, he said, is to make it difficult for non-tourists and non-residents to access the park.

Regarding wild animal populations, Walston said ground dwelling mammals and birds are getting trapped and snared on a large scale, while arboreal animals such as giant squirrels and gibbons are doing relatively well. He did not think the elephant population in Bokor was significant.

Dr. Antony Lynam, WCS Thailand shared with WildAid a very informative report that he wrote with Colin Poole and Walston, "Tiger Conservation Training Workshop Report", as well as 2 other reports he was responsible for, including "Tiger Surveys in Northeastern Cambodia" and "Tiger Conservation and Survey Training, Bokor National Park, Cambodia." Dr. Lynam worked with Walston to conduct the wildlife survey as part of the January training in Bokor. Lynam said that one tiger was found. Other mammals found included: Asian Elephant (*Elephas maximus*), Gaur (*Bos Gaurus*), and Pileated Gibbon (*Hylobates pileatus*), among others. Lynam wrote in the Bokor report that "...evidence of intense hunting pressure for mammals and ground-dwelling birds was revealed by the discovery of long lines of snares set along trails. The absence of some species, such as Sambar (*Cervus unicolor*) and Red Muntjack (*Munjiacus muntjak*) appeared disproportionately low and may be a result of this hunting pressure."

Lynam told us that animal populations in Bokor could slowly come back if rangers are encouraged and supported to conduct anti-poaching patrols in the park. Dr. Lynam shared his experience as a trainer for Cambodian rangers, including several rangers working in Bokor now. These experiences are taken into account in the recommendations for the training modules and schedules at the end of this report.

Net Neath, WCS counterpart from MOE/DNCP was also involved in last January's training on tiger survey techniques and conservation. He explained that the rangers that participated in the January training and the follow up field survey still have very limited knowledge on basic field equipment (map, compass and GPS). Some are able

to read basic maps and a compass. He suggested that navigation be taught again. Illiterate rangers should not be involved in the training course when writing is involved, however they should be encouraged to participate as observers.



Bokor Ranger guides MOE/DNCP rep into the forest

Neath said the main issue confronting Bokor at the moment is free access to NTFP collectors, poachers, and illegal loggers. Therefore, rangers have to know who enters the park illegally, when, where, and how.

He said that Bokor's rangers are motivated to patrol more than they are motivated to work with local communities. Neath said they do not know how to approach local people and talk about their issues. But they are good in following the commands of the director. The training should enhance their ability to understand the issues of the park and collaborate with all stakeholders.

Neath said that of course, the rangers must have knowledge and skills in taking care of their gun and keeping them in a safe condition. More important they must be sure to avoid accidents and fatalities, especially among non-violators.

Neath expressed that even after they received an intensive training on wildlife monitoring organized and instructed by WCS and Dr, Antony Lynam, the rangers found it difficult to follow the lesson and hard to apply those concepts and materials in the field.

Concerning strategic planning, Neath mentioned that to be able to develop any planning by the rangers, they must have training and experience. They have to understand basic components well, such as map, compass, GPS, what it means to investigate, patrol, monitor, or conduct community outreach. The rangers have no idea at all about planning, management, protection and conservation. In addition, they are unable to analyze and interpret the information they collect.

Department of Nature Conservation and Protection

Lay Khim, Director of MOE Protected Areas Office, in general agreed with the proposed training course that WildAid offered the DNCP. The following he viewed as constraints, strengths and needs of the current management of Bokor National Park:

Constraints

- Only monthly reports from BNP to DNCP in Phnom Penh
- The park has poor investigation, patrolling and monitoring activities
- No information gathering.
- There is limited law enforcement
- The rangers are confused by what they can and cannot do, and how to do it, in terms of fining, arresting or catching and prosecuting violators.
- The park has no form for rangers to record information from the field
- The park always delays drawing Ranger salaries
- The park has very limited field equipment and materials
- The relationship and communication between DNCP and the park is limited and there is almost no urgent intervention and reply from DNCP to park requests for help.
- There is no sustainable financial support for the park, either from the government or donors

Strengths

- The rangers have strong motivation in patrolling activities, particular in confiscation activities
- Most rangers have a background and experience with weapons
- The rangers have good discipline, respect park rules and regulation and follow the director's commands
- Rangers have a good relationship with local residents and local authorities
- Some rangers have good experience in Bokor's forests



WildAid and Ministry of Environment sign MOU

Needs

There is a strong need to train the rangers in:

- field data collection of wildlife and forest violations
- knowing what information should be gathered and how to report the information and to whom

- tourist promotion
- first aid assistance and safety first
- field report writing

- field equipment and materials (map, compass, GPS, camera trap etc.)
- community outreach and education
- building up relations with local communities because “patrolling activities cannot deal with all issues”

Lay Khim said that his department would appreciate the creation of a Field Information Report for Bokor, but the form should be reviewed first before introducing it to the park.

WildAid’s MOE counterpart, Meng Monyrak and BNP Director, Chay Yuthearith both asked if they could send rangers to Khao Yai National Park for training, and to observe the Khao Yai Conservation Project in action. They believed that this would be very educational and useful. WildAid reps told them that they would try to facilitate such an exchange sometime in the future.

Training Analysis

Throughout discussions with the rangers, they suggested that all lessons should be made as easy as possible, not advanced because several rangers do not read or cannot read very well. Most of them feel nervous in a classroom environment, especially during writing assignments. They also suggested that field lessons are more important than classroom lectures (i.e., learn by doing).

Summary and Recommendations:

Most of Bokor National Park is wide open to poaching, encroachment and logging. This is due to several factors:

1. lack of ranger personnel and substations to house them in the top 60% of the park;
2. lack of resources to mobilize personnel already stationed in the lower 40% of the park;
3. no comprehensive park protection system or training to implement such a system (note that the Park Director and his staff have adequate ideas for such a system).
4. no resources to support a protection system.

Fortunately, an escarpment running up the western side of the park creates a natural barrier to intruders, but it should not be assumed that poachers cannot move around this escarpment by traveling into the park further north.

Given the current ranger staff level, and the lack of significant funds available from the MOE, WildAid or any other donor at this time, WildAid recommends that the MOE and WildAid cooperate to develop a low-cost protection plan that can be expanded if and once the plan shows signs of working and other donors are attracted.

WildAid and MOE staff combined their ideas for a simple protection system, which forms part of the WildAid's list of recommendations for addressing threats to Bokor.

Recommendations--

1. MOE approve a new system for protecting Bokor National Park, which should include:
 - i. Rotational patrols by each of the 4 existing sub-stations. Patrols should last no less than 4 days per trip, unless violators are captured earlier and need to be taken to a sub-station or elsewhere for processing. Each team should patrol no less than 14 days per month in total, so patrol outings can be on the average twice or three times per month. Patrols should take place inside 4 designated areas, during designated times, as approved by the park Director. The main objectives of patrolling should be to: locate, push out and/or arrest poachers; confiscate poaching equipment (guns, snares, traps, etc); collect information about poaching activity and wildlife populations inside the park; record this data on newly provided Field Information Reports; and then send these reports to the Director or Deputy director 2 times per month.
 - ii. Outreach team activities. The director should appoint at least 2 more people besides himself to travel to communities that currently harbor a significant number of poachers (including NTFP collectors), survey those communities for additional information about their current activities inside the park, and determine what if any small scale, environmentally friendly development project might encourage some of them to stop or reduce poaching inside BNP. The Director, if he sees fit, should pursue his idea to develop tree nurseries and other agro-forestry projects on the southern and eastern side of the park, but it should be clear that there is a very small budget from WildAid for this endeavor, and that co-financing for expanding outreach activities should be sought from local agencies and foreign donors. Outreach team members should record information they learn about current poaching activity (including trends, names, routes, etc) on the newly provided Field Information Report, and send this report to the Director or Deputy Director for filing. Furthermore, WildAid and DNCP/BNP should develop a brochure about BNP, either a multi-language one in Khmer, English and French, or one in Khmer and another in English and French. Other outreach activities, including media coverage of BNP and interaction with local schools is highly encouraged to the extent the staff can implement these activities. It is recommended that BNP staff take photos of major findings during patrols or outreach work, so that these visuals can be used for investigations, the media and further outreach work.
 - iii. Investigations: The Director should appoint one person to input data from patrolling and outreach team Field Information Reports into a newly provided computer (or the current one if it is preferred that it be fixed). The Director should then have this information printed out and filed in two sections: "wildlife data" and "poaching data". The first section or file will include information on any signs of wildlife found by rangers during patrols, including which species, location (using UTM if possible), and any reliable reports by people who may have seen wildlife in or near the park. This file should also include data on dead wildlife. The wildlife data file should be shared with MOE/DNCP and WCS for review no less frequently than every two months. The second section, "poaching data" will include information found by rangers or the outreach team about who the poachers are, who they sell to, where wild

animals and plants from the park are being sold, where poachers operate inside the park (using UTM when possible), routes used to enter the park, etc. The poaching file should be shared no less frequently than once per month by the BNP Director with MOE/DNCP in Phnom Penh, local police, Forest Crimes Monitoring Unit, and MAFF. Inter-agency cooperation on investigating wild animal and plant buyers is critical to the success of this system.

2. Training. BNP staff be trained to implement the above system. Training should take place in December in Bokor National Park and include the following modules, with the approximate amount of time to teach each module:
 - i. Introduction to the new plan, and clarification of role and authority of the rangers. This day will include registration of rangers, introduction to trainers, etc. It is hoped that members of the MOE/DNCP, local provincial Governors' offices, police, MAFF, and select businesspersons be invited to this opening day: 1 Day.
 - ii. Strategic Planning: ½ Day.
 - iii. Navigation: 2.5 Days.
 - iv. Weapons Handling and Safety: 1 Day.
 - v. Arrest Techniques: 1.5 Days.
 - vi. Investigations and Interview Techniques (including photo documentation): 1.5 - 2 Days.
 - vii. Wildlife Track and Sign: 1.5 Days.
 - viii. Outreach: 1 to 1.5 Days.
 - ix. Processing information (inputting data from Field Information Reports): 1 Day
 - x. Forest Survival (including test of weapons handling, navigation, investigation, track and sign, and overnight patrolling): 3 Days.
 - xi. Overview: ½ Day.
 - xii. Issuing of Equipment and Certificates: ½ Day.

*note: the training team may wish to organize the course so that we sometimes rotate two sections of trainees through 2 different modules simultaneously.

3. Equipment and financial support: In order to implement the new system that the rangers will be trained to implement, BNP staff should be supported with the following from WildAid and other interested sponsors:
 - i. Salary supplements (level to be agreed between WildAid and MOE/DNCP)
 - ii. New uniforms for patrolling, including boots
 - iii. Field kits for overnight patrolling
 - iv. UTM Maps of BNP
 - v. Map holders
 - vi. Compasses
 - vii. GPS units
 - viii. Khmer Language guide to operating GPS
 - ix. Khmer Language Field Information Report forms
 - x. Computer (or repair existing one)
 - xi. Vehicle for Outreach team
 - xii. Fuel budget for outreach vehicle to be agreed between WildAid and MOE/DNCP
 - xiii. Money to buy a railway cart for patrolling part of southwestern side of park

- xiv. Technical and financial assistance to produce brochure(s) about and for BNP.
- xv. Possibly a small budget to help buy tree seedlings for outreach team (to be determined prior to January 1, 2001)
- xvi. Money for extra radio units (or replacements for existing ones if we can secure donated units). The number of units WildAid can provide or replace is not yet determined.
- xvii. 2 Digital cameras and waterproof camera carriers to be issued by Director to outreach team, and/or a patrol team to document crimes and outreach activities.

4. Monitoring of above system and equipment: MOE/DNCP and WildAid should agree on a MOE/DNCP counterpart to WildAid who will be responsible for monitoring and reporting. This will include: meeting with the Director and/or Deputy Director of BNP at least one time per month; writing a summary in Khmer and English about the problems and progress experienced by BNP staff during the previous month, including a short list of recommendations for next steps; and providing this report to MOE/DNCP, Director of BNP, WildAid, and WCS each month. Before training or support is provided to start a protection system, the WildAid Counterpart should collect information about current levels of illicit human activity inside the park. This information can serve as baseline data to measure the progress of patrolling activities later. Once the protection system is put into place, the Counterpart should ensure that ranger salary supplements and any other financial support provided by WildAid to the park is provided on time and to its intended targets. The Counterpart should also work with the BNP Director to record any broken, lost, or stolen equipment. Infrequently, WildAid or WCS staff may travel to BNP and request to review patrolling or outreach activities.

5. MOE Input: MOE should use its position in the Cambodian Government to help develop this new system of protection for BNP by:

Sending an urgent letter, copied to Council of Ministers, requesting that MAFF suspend permits for yellow vine and aloewood collecting in Cambodia. If it becomes necessary to negotiate a phase out of these environmentally destructive commercial enterprises, it should at least be made clear to commercial dealers that the buying and selling of yellow vine or aloewood collected inside protected areas is prohibited.

- i. Requesting cooperation from MAFF on reducing wildlife poaching and illegal wildlife trade throughout Cambodia;
- ii. providing a clear set of park regulations, including ranger authority, to be posted at each BNP substation, and to be distributed to local authorities, including provincial governors office, police, and to local media outlets. Multiple copies of these regulations should be made available to the Park Director for other targets. Recommended deadline for finishing these regulations is November 1, 2000. They can be announced and distributed by MOE/DNCP at the December training.
- iii. appealing to relevant ministries to repair the main road into Bokor National Park. So long as patrolling is taking place and cars are inspected for potential poachers or poaching equipment as they enter the park, the road should help more than hinder the recovery of BNP by facilitating tourism and tourism dollars for BNP.
- iv. appealing to relevant ministries to allow Cambodia's National Parks to receive a higher cut of entrance fees to the parks. It is suggested that BNP receive no less than 50% of proceeds.

- v. asking the Ministry of Defense for free radio equipment for BNP and other parks.
 - vi. asking UNDP and/or other relevant offices for permission to use the radio repeater tower near the BNP Training Center.
 - vii. appealing to the council of Ministers for a bigger budget for BNP so that current rangers can be paid a reasonable salary in the future on an ongoing basis, so that more rangers can be hired, and for the development of more sub-stations.
 - viii. Inviting provincial Governor's offices and police (and other personnel as deemed appropriate by MOE/DNCP) to the opening of the December training.
 - ix. Confirming once again to WildAid that weapons training (handling, safety) is welcome and needed for the rangers.
6. The above protection system and support should be provided with a name for future reference for correspondence between MOE/DNCP and sponsors, and for public relations purposes. It is suggested that the name be the "Bokor Conservation Project" or another name to be agreed by MOE/DNCP and WildAid, in consultation with other recipients of this report.
 7. This report should be sent to MOE/DNCP for comment on its content and recommendations to WildAid Co-Director, Steven Galster by August 30, 2000 at: wildaid1@loxinfo.co.th
 8. December Training Team members in receipt of this report should do the same.